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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
LISLE W. GEORGE, ET AL.

Serial No.: 09/884,696

Filed: June 19, 2001

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)
) Group Art Unit: 1633

) Examiner: Unassigned
)

For: MORAXELLA BOVIS CYTOTOXIN, CYTOTOXIN
GENE, ANTIBODIES AND VACCINES FOR PREVENTION
AND TREATMENT OF MORAXELLA BOVIS INFECTIONS

BOX IDS
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231 on March 13, 2002.

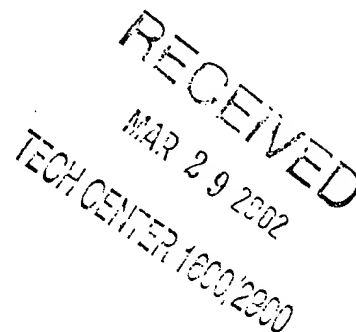


Hana Verny (Reg. No. 30,518)

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. 1.97(b)

The information disclosure statement submitted herewith is being filed before the mailing date of a first Office action on the merits, 37 CFR 1.97(b).

The citations listed on the attached PTO 1449, along with the copies of enclosed references, provide the background and may be material to the examination of the above-identified application and



are, therefore, submitted in compliance with the duty of disclosure in 37 C.F.R. 1.56, 1.97 and 1.98.

Some of the references may have been disclosed in the application and provide either the background for the invention or support for practicing it. The designation of references corresponds to the designation given in the Form 1449.

Reference I. Patricia S. Hoiem-Dalen, et al., Comparative Characterization of the Leukocidic and Hemolytic Activity of *Moraxella bovis*, Am. J. Vet. Res., 51/2:191-196 (February, 1990). This reference describes the leucocidic and hemolytic activity of *Moraxella bovis* on bovine neutrophils.

Reference J. F. Mark Billson, et al., A Haemolytic Cell-free Preparation of *Moraxella bovis* Confers Protection Against Infectious Bovine Keratoconjunctivitis, FEMS Microbiology Letters, 124:69-73 (1994). This reference describes the results of studies obtained in three groups of calves vaccinated with a hemolytic *M. bovis* isolate UQV 148NF, a non-hemolytic *M. bovis* isolate Gordon 26L3 and to a recombinant DNA-derived pili vaccine. Pili vaccine and hemolytic isolate UQV 148NF both provided protection against infections bovine keratoconjunctivitis.

Reference K. F. Mark Billson, et al., Characterization of Hemolysin of *Moraxella bovis* Using Hemolysis-Neutralizing Monoclonal Antibody, Infection and Immunity, pp. 3469-3474 (June 2000). This reference describes monoclonal antibodies generated in mice immunized with *M. bovis* hemolytic strain UQV 148NF.

Reference L. J. T. Gray, et al., Partial Characterization of a *Moraxella bovis* Cytolysin, Veterinary Microbiology, 43:183-196 (1995). This reference describes comparative studies of two *M. bovis* strains, one virulent and hemolytic, the other nonhemolytic and antivirulent.

Reference M. M. K. McG. Beard, et al., Reproduction of Bovine Keratoconjunctivitis With a Purified Haemolytic and Cytotoxic Fraction of *Moraxella bovis*, Veterinary Microbiology, 42:15-33 (1994). This reference describes evidence of virulence of hemolytic *M. bovis* strain and positive correlation between the hemolytic activity and cytotoxicity. The ocular administration of the hemolytic fraction caused reactions resembling the *bona fide* infections bovine keratoconjunctivitis.

Reference N. Michael H. Brown, et al., Infectious Bovine Keratoconjunctivitis: A Review, J. Vet. Intern. Med., 12:259-266 (1998). This reference is a review article on etiology, pathophysiology, clinical symptoms and treatment available for infectious bovine keratoconjunctivitis.

Reference O. F. Mark Billson, et al., Characterization of Hemolysin of *Moraxella bovis* Using a Hemolysis-Neutralizing Monoclonal Antibody, Infection and Immunity, pp.3469-3474 (June 2000). This reference describes the characterization of *Moraxella bovis* hemolysin by monoclonal antibody.


This Information Disclosure Statement under 37 C.F.R. 1.56, 1.97, and 1.98 is not to be construed as a representation that a

search has been made, that additional information material to the examination of this application does not exist, or that any one or more of these citations constitutes prior art.

If fees are required with the filing of these documents, the Commissioner is authorized to charge such fees to Deposit Account No. 16-1331.

Respectfully submitted,

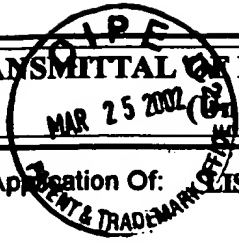
Date: March 13, 2002



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1633



TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT (Under 37 CFR 1.97(b) or 1.97(c))			Docket No. 481.06
In Re Application Of: LISLE W. GEORGE, ET AL.		COPY OF PAPERS ORIGINALLY FILED	
Serial No. 09/884,696	Filing Date JUNE 19, 2001	Examiner N/A	Group Art Unit 1633
Title: MORAXELLA BOVIS CYTOTOXIN, CYTOTOXIN GENE, ANTIBODIES AND VACCINES FOR PREVENTION AND TREATMENT OF MORAXELLA BOVIS INFECTIONS			
<p style="text-align: center;">Address to: Assistant Commissioner for Patents Washington, D.C. 20231</p> <p style="text-align: center;">37 CFR 1.97(b)</p> <p>1. <input checked="" type="checkbox"/> The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application other than a continued prosecution application under 37 CFR 1.53(d); within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; before the mailing of a first Office Action on the merits, or before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.</p> <p style="text-align: center;">37 CFR 1.97(c)</p> <p>2. <input type="checkbox"/> The Information Disclosure Statement submitted herewith is being filed after the period specified in 37 CFR 1.97(b), provided that the Information Disclosure Statement is filed before the mailing date of a Final Action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an Action that otherwise closes prosecution in the application, and is accompanied by one of:</p> <p style="padding-left: 40px;"><input type="checkbox"/> the statement specified in 37 CFR 1.97(e);</p> <p style="text-align: center;">OR</p> <p style="padding-left: 40px;"><input type="checkbox"/> the fee set forth in 37 CFR 1.17(p).</p>			

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TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.
481.06

In Re Application of **OLIP LISKIE W. GEORGE, ET AL.**

COPY OF PAPERS
ORIGINALLY FILED

Serial No.
09/884,696

MAR 25 2002

U.S. PATENT & TRADEMARK OFFICE

Filing Date
JUNE 19, 2001

Examiner
N/A

Group Art Unit
1633

**MORAXELLA BOVIS CYTOTOXIN, CYTOTOXIN GENE, ANTIBODIES AND VACCINES FOR
PREVENTION AND TREATMENT OF MORAXELLA BOVIS INFECTIONS**

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(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))

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Hana Verny
Signature

Dated: 3/13/02

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